

The Dairy.

Where Does the Meal Go To.

It has long been accepted as an excuse by feeders that meal fed to cows, must be given to them with cut hay or straw in order that it may pass to the first stomach, there to undergo the soaking preliminary to the thorough mastication known as chewing the cud. It has been claimed by some that, even when fed with hay, the meal is separated and passed along into the fourth stomach; and that water and medicines passed gently down the cows' throat also go directly to the fourth stomach. Experiments conducted at the Pennsylvania State Experimental Farm were taken to prove these suppositions [see CANADA FARMER, present vol., p. 92]. A cow fed on corn-meal and unground oats, and immediately killed, was found to have no meal in the first stomach or among the maniplus, while the oats had passed into the first stomach.

But the editor of the *New England Farmer* has made experiments which prove the exact opposite of the Pennsylvania experiments. A cow was fed a mess of clear corn meal, slightly moistened, which she ate quietly, but with a good appetite. Within ten or fifteen minutes after eating the meal, she was passing through the regular course necessary for transforming live stock into dressed beef for the tables of those who consider they have a right to hold the life of an animal as a toy to be tossed about at pleasure.

As soon as convenient, the digestive apparatus was examined and the meal which had just been eaten *was off in the first stomach*, together with hay in all stages of fineness, and also a few pieces of beet which had apparently been swallowed with very little, if any, chewing. The meal was so fresh and lay together so nearly in one mass that there could have been no mistake about it, aside from the fact that the third and fourth stomachs contained no meal at all, either fresh or stale. The fourth or true stomach was more nearly empty than either of the others, and contained only a little water, some coarse particles of hay and a quantity of weed seeds and apple seeds which had not been crushed by mastication.

There is evidently room for further experiments in this direction. The one trial of the *New England Farmer*, though not sufficient to settle the case either way, tears into ribbons the theory that meal always passes into the fourth stomach direct. It is usual, now-a-days, for the agricultural press to call upon the Agricultural Colleges when they want anything experimented upon. This is a point, however, which would scarcely fall within the possibilities at a College unless the institution happen to slaughter its own meat. It is a point for the consideration of which the men of science and the butchers must lay their wits together.

Onion Juice to Repel Flies Pyrethrum Roseum.

EDITOR CANADA FARMER.—On pages 110 and 112 of last month's FARMER I notice several remedies mentioned to prevent flies from attacking the teats of cows and for scab in sheep; also, in another place, a remedy for the attacks of the gad-fly upon sheep. As the remedies here mentioned are not very elegant, and some (as the rubbing of a mixture of lard and tar on the teats of a cow) are disgusting, I may, perhaps be allowed to impart a few items of information enabling us to do away with remedies that are often worse than the disease. Tar, for instance, when applied to the skin and allowed to remain on it, as recommended for the gad-fly, will produce a superficial inflammation with the most troublesome itching; tar and lard on the teats are not very appetizing neighbours to the milk.

Try therefore to remember the following:—"The juice of the onion will effectually keep away flies." Even when painted on a gilt picture frame in spring, it will prevent flies settling on it during the whole summer. Or if you wish to go out, in the evening, into places swarming with gnats, and wash your face, neck and hands with water containing some onion juice, no gnat will come near you, although not even the keenest human nose could suspect you had used onions in any way. It, therefore, you want to protect any part of your live stock from the attacks of insects, paint them with onion juice.

The most convenient preparation of this onion liniment,

I should think, would be a saturated spirituous extract, to make which take, of bulb onions (sliced) 1 lb.; best spirits of wine about 20 fluid ounces. Pour the latter over the onions, tightly close the bottle and allow it to stand in a dark, cool place for a fortnight. For use, this extract may be considerably diluted with water.

Another remedy, which, besides, invariably kills the *acari* producing the itch, is the plant *Pyrethrum roseum Persicum* (of which the genuine Persian insect powder is made), or even the *P. Indicum*, which is easier to be got. Take of this dried 1 lb., and infuse with 2 lbs. of alcohol, allowing to stand for a fortnight. May be used highly diluted, as a protection from insects, or as a wash for the itch, on man or beast. It is harmless. In conclusion, I beg to warn you not to try the so-called "Persian Insect Powder" of commerce as a remedy for the itch, as that powder generally is grossly adulterated, often with arsenic.

Toronto.

Raising a Dairy.

We spoil our milk cows in our calves, many of us. There is too little system, and what there is, is too often wrong. A calf does not want to be fattened if intended for a milk cow. It does not want to be scrimped in its food. It does not want to be fed the wrong food, or in the wrong way. All these are common errors. With pure blood among breeders, more pains are taken. The same pains are to be taken with stock intended for the dairy, whether thorough-bred or otherwise. Particularly in the native cow is benefit received from care in rearing, developing thus the original good qualities which are more or less latent through generations of abuse, as the "native," as originally imported, was of good blood, and the individuals selected and brought over were choice specimens.

The calf wants to be fed with food congenial to calves. The mother-milk is the best; at the start, to be followed by skim-milk and hay tea, given warm as the milk from the cow, so as to prevent scours. In a few weeks a little hay will be eaten. This should be tender (grass aftermath excellent) and bright, free from dirt and mould, and unbleached. The calf will soon take to it and do well, the milk meanwhile continued. When the season for grass arrives, turn out. I have known the best success with clover, turned in when the plant is advanced, and fed till in blossom.

Care should be taken so as to avoid over-feeding on the one hand, and under-feeding on the other. The course between is the only wise course, the object being to secure the full growth of the animal, all that it is capable of, in the time allotted for this growth. If this is neglected, there will be loss according to the neglect, never to be replaced. It is difficult to make this believed by the general farmer.

A full growth will give you a cow, from the birth of the calf, in two years. If ill attended to, it will take another year, thus losing a year's feeding and care to attain the object, which is milk. Early maternity will also favor an early development of the lacteal functions, which will thus become enlarged and established. This is now well known to experienced dairymen.

Not only during the summer, but the fall and winter, and all the time without abatement, is this care and attention to be given. There is to be no let up, for this is loss—no exposure to the cold fall and spring winds and rains, which are very hurtful to the shivering calves, especially the first fall.

It pays to take care of the calves, and it is the only way that does pay. I have never known it to fail—fairly fail, as is the case with ill-kept stock, but have met with general good success—in some cases the most highly satisfactory. Select from the best cows; and if the male is good—*from a good cow or a good milking strain—all the better.* These things cannot be overlooked.

A word more as to feeding. I have recommended, first, milk from the cow; then skimmed milk; this should not be skimmed too close, that is, when the milk is sour; let it be done when the milk is yet sweet. Then, if the hay is tender and nutritious, I have found the feed (including the hay tea) sufficient for health and growth. This with the best calves, and until pasture or advanced clover is substituted for the hay. If, however, the calf needs it, a little meal, fine ground or well cooked, daily given, will supply the want. Oat meal stands in high favor. Too much meal, however, is worse than none at all. In this way, the cheapest and best dairies can be secured. The better and cheaper the food, the more profit. Get thus a good dairy and keep it good. It wants constant care and attendance; no over-feeding; no abuse; no suffering; but generous and kind treatment.—Country Gentleman.

Fat in Milk and Cheese.

In reference to the fact recently demonstrated, that fat arises from the decomposition of albumen in living organisms, a writer in the *Milch Zeitung* is satisfied that the same process goes on in albumen after it has been removed from the animal body:

He found that the fatty matter contained in milk increases in quantity for a few days after it is drawn, while the amount of albumen becomes less. But the formation of fat in milk freely exposed to the air is conditional in the development of fungi. If their germs are deranged by the milk being raised to a temperature of 180°: or if means are purposely taken to prevent the admission of fungous germs to it while the access of air is still permitted, the fatty contents of the milk diminish, the existing fat is oxidized by the air and no new compensatory supply is formed.

Exactly analogous processes attend the formation of fat in cheese. Here also, the existing proportion of butter is diminished by the atmospheric air on the one hand, while on the other a fresh supply is formed by the influence of the fungi which are becoming developed. According to the preponderance of one or the other processes, the fat contents of old cheese will rise or fall in amount.

The *Rural New-Yorker* in commenting on this says:

"The philosophy of curing cheese is very imperfectly understood at least in America. Many dairymen, as well as cheese dealers, do not believe that fat in cheese can be produced in any other way than by the cream which is in the milk. And yet it has been proved over and over again, that cheese properly cured, though made from milk partly skimmed, is often more mellow and rich tasting than cheese made from whole-milk, but not so well cured."

WATER FOR DAIRY COWS. No animal should be required to drink water which the owner himself would refuse, and especially so if that animal is the cow from which you hope to make good butter. It is sufficient on this point to say that pure water is an indispensable article to the success of the dairymen, for good butter or cheese cannot be made where good water cannot be obtained.

PRESERVING MILK AND CREAM IN CANS. I take freshly drawn milk, heat it over boiling water until the mercury shows boiling point in milk, have cans ready the same as for canning fruit, fill and seal in the same manner as fruit, and keep in a cool place; I keep mine on a cellar bottom. However, I like preserved cream better than milk, as it takes less room; treat that in the same way, remembering to have the milk or cream all pure and sweet.—E. J. Arnold, in *New England Farmer*.

KING'S JERSEY COW.—J. C. King, Bayria, O., writes the *Germantown Telegraph* his experience with his Jersey cow as follows: "In the spring of 1871 I bought my first Jersey cow. My neighbours laughed at me for paying \$250 for so small a cow; but when I showed them the rich yellow milk and thick cream and such yellow butter as they never saw before, they thought a Jersey cow was worth having after all. That cow has won me \$189 in premiums, and I have sold two of her calves (one a half-blood) for \$250, and I have the cow and a nice yearling heifer left. The increase of that cow have also won me \$147 in premiums."

TREATMENT OF YOUNG COWS.—The longer the young cow, with her first and second calf, can be made to hold out, the more surely will this habit be fixed upon her. Stop milking her four months before the next calf, and it will be difficult to make her hold out to within four or six weeks of the time of calving afterwards. Induce her, if possible, by moist and succulent food, and by careful milking, to hold out even up to the time of calving, if you desire to milk her so long, and this habit will be likely to be fixed upon her for life. But do not expect to obtain the full yield of a cow the first year after calving. Some of the very best cows are slow to develop their best qualities; and no cow reaches her prime till the age of five or six years.—Maine Farmer.

BETTER PRODUCT OF A SHORT-HORN HEIFER.—In looking over your paper from week to week, anyone would suppose that the Jersey cows were ahead of all other breeds in the State for making butter. I think it is a great error. I think there are other breeds that will make more butter on less provender, and give more milk than the Jerseys, and make butter of as good quality. I have a thorough-bred Short-horn cow, four years old last March, that made in one week last January eleven and three-fourths pounds of as nice butter as was ever produced by a Jersey cow. It was but seven minutes churning by the clock. Her feed was but four quarts of shorts per day and as much good hay as she would eat. If any one has a Jersey heifer three years old past that will beat this I would like to purchase her.—M. L. Wilder, in *Maine Farmer*.